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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/664,719	09/17/2003	Masaya Kuwahara	10407-61US (A3035MT-US1)	4370

570 7590 09/20/2006

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EXAMINER	
LAMB, CHRISTOPHER RAY	
ART UNIT	**PAPER NUMBER**
2627	

DATE MAILED: 09/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/664,719	KUWAHARA ET AL.	
	Examiner	Art Unit	
	Christopher R. Lamb	2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-29 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-29 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 17 September 2003 is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date 8/6/06, 9/17/03.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The information disclosure statement filed September 17th, 2003 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered.

Specifically, there is no copy of the article "Thoroughly Dissecting the Next Generation Optical Disc Technology," and no copy of the JP 60-138740 patent.

Drawings

3. Figures 15-16 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct

any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 7 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 7 recites the limitation "tracking gain calculating section" in lines 3-4. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1, 2, 9, 20, 26, and 28 are rejected under 35 U.S.C. 102(b) as being anticipated by Shinkai (US 4,700,334).

Regarding claim 1:

Shinkai discloses:

A tracking controller comprising a tracking error detecting section for generating and outputting a tracking error signal that represents how much the focal point of a light beam has shifted from a target track on a storage medium (Fig. 5), and

a tracking control section for generating a drive signal in response to the tracking error signal so as to move the light beam such that the focal point of the light beam is located right on the target track (Fig. 5),

wherein the gain of at least one of the tracking error signal and the drive signal is switched depending on whether or not the focal point of the light beam is located on a recorded area of the storage medium on which data has already been written (abstract).

Regarding claim 2:

The tracking controller of Shinkai further comprises a tracking error amplitude adjusting section for multiplying the tracking error signal by a predetermined proportionality constant (Fig. 5: 30), wherein the gain of the tracking error signal is switched by changing the proportionality constant depending on whether or not the focal point of the light beam is located on the recorded area (column 8, line 35 to column 9, line 2).

Regarding claim 9:

Shinkai discloses a light detecting section for detecting light that has been reflected from, or transmitted through, the storage medium, and an area distinguishing section for judging whether the focal point of the light beam is located on the recorded area or on the unrecorded area (column 8, lines 20-35).

Regarding claim 20:

Shinkai discloses an optical disc drive comprising the tracking controller of claim 1 (it is for use in an optical disc player: abstract).

Regarding claims 26 and 28:

These are method claims corresponding to apparatus claims 1, 2, and 9, and are met when the apparatus operates.

8. Claims 1, 2, 9, 20, 26, and 28 are rejected under 35 U.S.C. 102(b) as being anticipated by Takeuchi et al. (US 4,890,273).

Regarding claim 1:

Takeuchi discloses:

A tracking controller comprising a tracking error detecting section for generating and outputting a tracking error signal that represents how much the focal point of a light beam has shifted from a target track on a storage medium (column 7, lines 25-35), and

a tracking control section for generating a drive signal in response to the tracking error signal so as to move the light beam such that the focal point of the light beam is located right on the target track (column 7, lines 25-35),

wherein the gain of at least one of the tracking error signal and the drive signal is switched depending on whether or not the focal point of the light beam is located on a recorded area of the storage medium on which data has already been written (column 7, lines 35-45; column 5, lines 5-25).

Regarding claim 2:

The tracking controller of Takeuchi further comprises a tracking error amplitude adjusting section for multiplying the tracking error signal by a predetermined

proportionality constant (column 7, lines 35-45), wherein the gain of the tracking error signal is switched by changing the proportionality constant depending on whether or not the focal point of the light beam is located on the recorded area (column 7, lines 35-45; column 5, lines 5-25).

Regarding claim 9:

Takeuchi discloses a light detecting section for detecting light that has been reflected from, or transmitted through, the storage medium, and an area distinguishing section for judging whether the focal point of the light beam is located on the recorded area or on the unrecorded area (column 6, lines 15-35).

Regarding claim 20:

Takeuchi discloses an optical disc drive comprising the tracking controller of claim 1 (Fig. 4).

Regarding claims 26 and 28:

These are method claims corresponding to apparatus claims 1, 2, and 9, and are met when the apparatus operates.

9. Claims 1-4, 13, 26 and 27 are rejected under 35 U.S.C. 102(b) as being anticipated by Yanagawa (US 5,442,609).

(The claims have not been addressed in numerical order because the order used below makes the rejection clearer: claims 3-4 are addressed first, then the others.)

Regarding claim 3:

Yanagawa discloses:

A tracking controller comprising a tracking error detecting section for generating and outputting a tracking error signal that represents how much the focal point of a light beam has shifted from a target track on a storage medium (Fig. 1), and

a tracking control section for generating a drive signal in response to the tracking error signal so as to move the light beam such that the focal point of the light beam is located right on the target track (a "track-following servo system," column 2, lines 45-50),

wherein the gain of at least one of the tracking error signal and the drive signal is switched depending on whether or not data is being written on the storage medium (Fig. 1: the gain is different dependent on the switch 31; column 4, lines 5-10: the switch is one way for recording; column 4, lines 50-55: the switch is the other way for reproduction).

Regarding claim 4:

Yanagawa discloses wherein the tracking controller further comprises a tracking error amplitude adjusting section for multiplying the tracking error signal by a predetermined proportionality constant (column 4, lines 35-55), wherein the gain of the tracking error signal is switched by changing the proportionality constant depending on whether or not data is being written on the storage medium (the proportionality constant is the determined gain when it is reproducing; otherwise, when the switch is the other way, the proportionality constant is one since the amplifier is bypassed).

Regarding claims 1-2:

Because Yanagawa switches based upon recording or reproduction, in Yanagawa the gain of at least one of the tracking error signal and the drive signal is switched depending on whether or not the focal point of the light beam is located on a recorded area of the storage medium on which data has already been written (Yanagawa can only reproduce from an area where data has been written, and only write in an unrecorded area). Otherwise these claims are the same as claims 3-4 and are similarly rejected.

Regarding claim 13:

The storage medium of Yanagawa is a write-once storage medium (column 1, lines 10-30).

Regarding claims 26 and 27:

These method claims contain only steps already discussed with regards to the rejections of claims 1 and 3, and are similarly rejected.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11. Claims 5-7, 21, 23, and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shinkai in view of Hiroki et al. (US 5,559,770).

Regarding claims 5:

Shinkai discloses a tracking controller as discussed above.

Shinkai does not disclose "a tracking gain calculating section for calculating and storing a gain of a tracking control loop, which is defined by the gain of the tracking error detecting section, the tracking error amplitude adjusting section and the tracking control section, at an arbitrary frequency,

"wherein a ratio of the gain that has been calculated by the tracking gain calculating section for the recorded area, on which the data has been written, to the gain that has been calculated by the tracking gain calculating section for the unrecorded area, on which the data has not yet been written, is used as the proportionality constant."

Hiroki discloses a tracking gain calculating section for calculating and storing a gain of a tracking control loop, which is defined by the gain of the tracking error detecting section, the tracking error amplitude adjusting section and the tracking control section at an arbitrary frequency (Fig. 9: column 9, line 20 to column 10, line 40).

Hiroki discloses that this is necessary to assure stable operation of the gain loop (column 4, lines 5-15).

It would have been obvious to one of ordinary skill in the art at the time of the invention to include in Shinkai a tracking gain calculating section for calculating and storing a gain of a tracking control loop, which is defined by the gain of the tracking error detecting section, the tracking error amplitude adjusting section and the tracking control section at an arbitrary frequency, as taught by Hiroki.

The motivation would have been to assure stable operation of the gain loop.

Shinkai in view of Hiroki inherently includes wherein a ratio of the gain that has been calculated by the tracking gain calculating section for the recorded area, on which the data has been written, to the gain that has been calculated by the tracking gain calculating section for the unrecorded area, on which the data has not yet been written, is used as the proportionality constant.

The explanation is as follows: Shinkai already includes separate gains for recorded and unrecorded areas, as noted above. Thus the teaching of Hiroki (that the gain must be calculated) obviously must apply to both gains of Shinkai: the recorded gain, and the unrecorded gain: Shinkai in view of Hiroki must calculate both. Since the proportionality constant of Shinkai is used to adjust the gain between the case of whether the beam is in the recorded or unrecorded area, once the gains are calculated as taught by Hiroki the proportionality constant then inherently becomes the ratio of the two calculated gains: otherwise there was no reason to calculate them.

Regarding claim 6:

This claim is rejected for the same reasons as claim 5 above.

Regarding claim 7:

Shinkai includes a tracking error amplitude measuring section for measuring the amplitude of the tracking error signal (Fig. 5: the whole point of the circuit is to measure the amplitude of the tracking error to bring the beam back on track); the other elements of this claim have been discussed with regards to claim 5.

Regarding claims 21 and 23:

All elements positively recited have been discussed with regards to the earlier rejections.

Regarding claim 29:

This is inherent to Shinkai in view of Hiroki.

12. Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takeuchi in view of Bish (US 5,526,329).

Regarding claim 11:

Takeuchi discloses a tracking controller as discussed above.

Takeuchi further discloses:

a transport section for moving the focal point of the light beam across the tracks on the storage medium (Fig. 4),

wherein an area distinction value is defined in advance, the area distinction value being used to judge whether the focal points of the light beam is located on the recorded area or on the unrecorded area (column 6, lines 15-35),

wherein the area distinguishing section determines, by the area distinction value and the output of the light detection section, whetehr the focal point of the light beam is located on the recorded area or on the unrecorded area (column 6, lines 15-35).

Takeuchi does not disclose:

that the area distinction value is defined in advance *based on the outputs of the light detecting section*,

the outputs having been obtained for the recorded area and the unrecorded area when the focal point of the light beam was moved by the transport section to the recorded area and to the unrecorded area, respectively.

(In other words, Takeuchi has an area distinction value, the "high" and "low" levels, but it is preset: Takeuchi does not determine the value by reading output levels from the disc).

Bish discloses an area distinction value defined in advance based on the outputs of the light detecting section, the outputs having been obtained for the recorded area and the unrecorded area when the focal point of the light beam was moved by the transport section to the recorded area and the unrecorded area, respectively (column 5, lines 30-60: at the end of this section the L and H levels are from recorded areas, the baseline B is from an unrecorded area).

Bish discloses that this is necessary to distinguish blank parts due to drive and media variations (column 2, lines 5-10).

It would have been obvious to one of ordinary skill in the art at the time of the invention to include in Takeuchi an area distinction value defined in advance based on the outputs of the light detecting section, the outputs having been obtained for the recorded area and the unrecorded area when the focal point of the light beam was moved by the transport section to the recorded area and the unrecorded area, respectively, as taught by Bish.

The motivation would have been to compensate for drive and media variations, as taught by Bish.

Regarding claim 12:

In Takeuchi in view of Bish the area distinction value is defined based on peak values of the light beams that have been reflected from, or transmitted through, the recorded area and the unrecorded area, respectively, during a predetermined period (Bish detects the envelope, and thus the peak value).

13. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yanagawa in view of Hiroki.

Yanagawa discloses a tracking control method for controlling a light beam such that the focal point of the light beam is located right on a target track on a storage medium by detecting how much the focal point has shifted from the target track, the method comprising the steps of:

calculating a first gain of a tracking control loop when the focal point of the light beam is located on a recorded area of the storage medium on which data has already been written (column 4, lines 20-35);

calculating a second gain of the tracking control loop when the focal point of the light beam is located on an unrecorded area of the storage medium on which no data has been written (column 4, lines 20-35); and

adjusting the gain of the tracking control loop according to the first and second gains by determining whether or not data is being written on the storage medium (column 4, lines 35-55).

Yanagawa does not disclose:

Calculating the gains at an arbitrary frequency.

Hiroki discloses:

Calculating the gains at an arbitrary frequency (column 9, lines 40-60). Hiroki discloses that this is necessary to keep the control loops stable (column 3, line 65 to column 4, line 5).

It would have been obvious to one of ordinary skill in the art at the time of the invention to include in Yanagawa calculating the gains at an arbitrary frequency, as taught by Hiroki.

The motivation would have been to keep the control loops stable.

14. Claims 1-2, 6, 8, 9, 21, 23-26, and 28-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kasumoto et al. (US 2002/0105865) in view of Takeuchi et al. (US 4,890,273).

Regarding claim 1:

Kusumoto discloses:

A tracking controller comprising a tracking error detecting section for generating and outputting a tracking error signal that represents how much the focal point of a light beam has shifted from a target track on a storage medium (Fig. 5), and

a tracking control section for generating a drive signal in response to the tracking error signal so as to move the light beam such that the focal point of the light beam is located right on the target track (Fig. 5: 11,20),

Kusumoto does not disclose:

wherein the gain of at least one of the tracking error signal and the drive signal is switched depending on whether or not the focal point of the light beam is located on a

recorded area of the storage medium on which data has already been written (Kusumoto, does, however, switch the gain depending on whether the focal point is in a recorded or prerecorded area: paragraph 113).

Takeuchi discloses:

wherein the gain of at least one of the tracking error signal and the drive signal is switched depending on whether or not the focal point of the light beam is located on a recorded area of the storage medium on which data has already been written (column 5, lines 5-25).

Takeuchi discloses that this is necessary to stably control the tracking operation (column 3, lines 15-20).

It would have been obvious to one of ordinary skill in the art to modify Kusumoto to include wherein the gain of at least one of the tracking error signal and the drive signal is switched depending on whether or not the focal point of the light beam is located on a recorded area of the storage medium on which data has already been written, as taught by Takeuchi.

The motivation would have been to stably control the tracking operation.

Regarding claim 2:

Kusumoto in view of Takeuchi discloses a tracking error amplitude adjusting section for multiplying the tracking error signal by a predetermined proportionality constant (Kusumoto Fig. 5: 9),

wherein the gain of the tracking error signal is switched by changing the proportionality constant depending on whether or not the focal point of the light beam is located on the recorded area (taught by Takeuchi as discussed above).

Regarding claim 6:

Kusumoto in view of Takeuchi further comprises a tracking gain calculating section for calculating and storing a gain of a tracking control loop, which is defined by the tracking error detecting section and the tracking control section, at an arbitrary frequency (Kusumoto discloses calculating the gain for each region: paragraphs 109-112. The gain is calculated by using an applied disturbance signal – paragraph 10 – and is thus calculated at an arbitrary frequency),

wherein the gain is switched depending on the gain that has been calculated by the tracking gain calculating section for the recorded area, on which the data has been written and the gain that has been calculated by the tracking gain calculating section for an unrecorded area, on which the data has not yet been written (since Kusumoto discloses calculating and switching the gain for each region, and Takeuchi teaches the unrecorded area must be considered, this is inherent to Kusumoto in view of Takeuchi).

Regarding claim 8:

Kusumoto in view of Takeuchi further comprises a tracking error amplitude measuring section for measuring the amplitude of the tracking error signal, wherein the gain is switched depending on the amplitude that has been measured by the tracking error amplitude measuring section for the recorded area, on which the data has been written and the amplitude that has been measured by the tracking error amplitude

measuring section for an unrecorded area, on which the data has not yet been written (Kusumoto: Fig. 5: 21, 9; paragraphs 114-116).

Regarding claim 9:

Kusumoto in view of Takeuchi discloses a light detecting section for detecting light that has been reflected from, or transmitted through, the storage medium (Kusumoto Fig. 5: 4), and

an area distinguishing section for judging whether the focal point of the light beam is located on the recorded area or on the unrecorded area (Fig. 5: 21. In Kusumoto this is for distinguishing between recorded and prerecorded areas, but in Kusumoto in view of Takeuchi it must be extended to also distinguish unrecorded areas for the apparatus to operate).

Regarding claim 21, 23, 26, and 28:

All elements positively recited have already been discussed with regards to earlier claims.

Regarding claim 24 and 25:

Kusumoto in view of Takeuchi discloses that the disc can be a CD-RW disc (Kusumoto paragraph 1): thus the unrecorded area can be turned into recorded area and vice-versa.

Regarding claim 29:

This is inherent to Kusumoto in view of Takeuchi.

15. Claim 5, 10, and 14-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kusumoto in view of Takeuchi as applied to claim 2 above, and further in view of Yanagawa (US 5,442,609).

Kusumoto in view of Takeuchi discloses a tracking controller as discussed above.

Kusumoto in view of Takeuchi further comprises a tracking gain calculating section for calculating and storing a gain of a tracking control loop, which is defined by the tracking error detecting section, the tracking error amplitude adjusting section and the tracking control section, at an arbitrary frequency (Kusumoto paragraphs 109-111).

Kusumoto in view of Takeuchi does not disclose:

(A) wherein a ratio of the gain that has been calculated by the tracking gain calculating section for the recorded area, on which the data has been written, to the gain that has been calculated by the tracking gain calculating section for an unrecorded area, on which the data has not yet been written, is used as the proportionality constant.

However, note that Kusumoto in view of Takeuchi does disclose:

(B) calculating gains for the recorded and unrecorded areas and switching between them (as in Kusumoto Fig. 5 part 9).

Thus, the difference between Kusumoto in view of Takeuchi and the claimed invention is that Kusumoto in view of Takeuchi switches between two independently calculated gains, and the claimed invention has a base gain and multiplies it by a calculated constant to reach the second gain: however, in either case, both the first and second gains end up being the same.

Yanagawa discloses (A) wherein a ratio of the gain that has been calculated by the tracking gain calculating section for the recorded area, on which the data has been written, to the gain that has been calculated by the tracking gain calculating section for an unrecorded area, on which the data has not yet been written, is used as the proportionality constant (Fig. 1; column 4, lines 35-55).

It would have been obvious to include in Kusumoto in view of Takeuchi element (A) instead of element (B), because the two are equivalent structures: they are used in the same environment, for the same purpose, and achieve the same result.

(Kusumoto in view of Takeuchi has two separate gains and switches between them; Yanagawa shows that you could also have a base gain and use a ratio to get the second).

Regarding claim 10:

Kusumoto in view of Takeuchi, and further in view of Yanagawa, discloses a light source for emitting the light beam (Kusumoto Fig. 5),

wherein the unrecorded area is turned into the recorded area by writing data on the storage medium with the light beam focused thereon, or wherein the recorded area is turned into the unrecorded area by erasing data from the storage medium with the light beam focused thereon (Kusumoto discloses that the disc may be a re-writeable disc, paragraph 1).

Regarding claim 14:

Kusumoto in view of Takeuchi, and further in view of Yanagawa, discloses wherein management information for the storage medium has been recorded in advance on the recorded area (Kusumoto Fig. 4).

Regarding claim 15:

Kusumoto in view of Takeuchi, and further in view of Yanagawa, discloses wherein the storage medium includes a region on which a test pattern to adjust the intensity of the light beam in writing data on the storage medium is to be wrote (Kusumoto Fig. 4), and the region is used as the recorded area and the unrecorded area (the PCA contains some recorded and unrecorded areas as shown in Fig. 4; also note that Yanagawa discloses using the test region to set the gains).

Regarding claim 16:

Kusumoto in view of Takeuchi, and further in view of Yanagawa, discloses wherein the recorded area is a data area or a control data zone, and the unrecorded area is a power calibration area (Kusumoto Fig. 4).

Kusumoto in view of Takeuchi, and further in view of Yanagawa, does not disclose wherein the storage medium is a DVD-R disc.

It would have been obvious to one of ordinary skill in the art to include in Kusumoto in view of Takeuchi, and further in view of Yanagawa, wherein the storage medium is a DVD-R disc, because the Examiner takes Official Notice that DVD-R discs are well known in the art.

The motivation would have been to make the apparatus compatible with more kinds of discs, improving usability.

Regarding claim 17:

Kusumoto in view of Takeuchi, and further in view of Yanagawa, discloses wherein the storage medium is a CD-R disc or a CD-RW disc (Kusumoto paragraph 1), the recorded area is a data area or a power calibration area, and the unrecorded area is constituted by the first or last 30 ATIP frames of a test area of the power calibration area (Kusumoto Fig. 4 shows that these can be recorded or unrecorded areas).

Regarding claim 18:

Kusumoto in view of Takeuchi, and further in view of Yanagawa, discloses wherein the recorded area is a data area or a control data zone, and the unrecorded area is a power calibration area (Kusumoto Fig. 4).

Kusumoto in view of Takeuchi, and further in view of Yanagawa, does not disclose wherein the storage medium is a DVD-RW disc.

It would have been obvious to one of ordinary skill in the art to include in Kusumoto in view of Takeuchi, and further in view of Yanagawa, wherein the storage medium is a DVD-RW disc, because the Examiner takes Official Notice that DVD-RW discs are well known in the art.

The motivation would have been to make the apparatus compatible with more kinds of discs, improving usability.

Regarding claim 19:

Kusumoto in view of Takeuchi, and further in view of Yanagawa, discloses wherein the recorded area is a permanent information and control data area or an

optimum power control area, and the unrecorded area is another optimum power control area (Kusumoto Fig. 4).

Kusumoto in view of Takeuchi, and further in view of Yanagawa does not disclose wherein teh storage medium is a high-density storage medium from/on which data is read or written by means of a light beam with a wavelength of 405 nm.

It would have been obvious to one of ordinary skill in the art to include in Kusumoto in view of Takeuchi, and further in view of Yanagawa, wherein the storage medium is a high-density storage medium from/on which data is read or written by means of a light beam with a wavelength of 405 nm, because the Examiner takes Official Notice that high-density storage mediums from/on which data is read or written by means of a light beam with a wavelength of 405 nm are well known in the art.

The motivation would have been to make the apparatus compatible with more kinds of discs, improving usability.

Conclusion

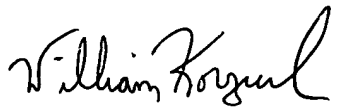
16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Nishiuchi (US 2002/0150005); Takiguchi (US 6,556,525); Iimura (US 5,175,719).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher R. Lamb whose telephone number is (572) 272-5264. The examiner can normally be reached on 8:30 AM to 6:00 PM Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Korzuch can be reached on (571) 272-7589. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CRL 9/12/06



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